



## **Research Forum – Student PPT Presenters** **April 26, 2018, East Campus Union, Lincoln, Nebraska**

### **Closing Water & Agricultural Productivity Gaps:**

***Optimizing the water use efficiency of C4 grain crops using comparative phenomics and crop models to guide breeding targets*** - Daniel Santana de Carvalho, Graduate Research Assistant, Agronomy & Horticulture, UNL; Graduate Research Advisor: James C. Schnable

***Genetic Architecture of Male Traits for Hybrid Wheat Seed Production*** – Nicholas Garst, Graduate Research Assistant, Department of Agronomy, UNL; Graduate Research Advisor: P. Stephen Baenziger

***Livestock Thermodynamics and Food Security in Sub-Saharan Africa*** - Calvin Harman, Graduate Research Assistant, Agricultural & Biological Systems Engineering, UNL; Graduate Research Advisor: Adam Liska

### **Improving Groundwater Management for Agricultural Production:**

***Enhanced biodegradation of atrazine at high infiltration rates in agricultural soils*** – Renys Barrios, Graduate Research Assistant, Department of Civil Engineering, UNL; Graduate Research Advisors: Shannon Bartelt-Hunt and Xu Li

***Global Water Strategy: Assessing the First 15 Years of UN-Water*** – Maria Benes, Graduate Research Assistant, Department of Political Science, UNL; Graduate Research Advisor: Patrice McMahon

***Improving Groundwater Characterization and Management through Integration of Airborne Electromagnetics (AEM) and Borehole Data*** - Jaqueline Polashek, Graduate Research Assistant, School of Natural Resources, UNL; Graduate Research Advisor: Jesse Korus

***The impact of crop insurance on agricultural water use and its interaction with well yield*** - Paloch Suchato, Graduate Research Assistant, Agricultural Economics, UNL; Graduate Research Advisor: Taro Mieno

***The Effects of Groundwater Policies and Economic Factors on Well Drilling Decisions*** - Qianyu Zhang, Graduate Research Assistant, Agricultural Economics, UNL; Graduate Research Advisor: Karina Schoengold

### **Enhancing High-productivity Irrigated Agriculture:**

***Data-driven models and geostatistics for groundwater management in the High Plains*** – Alessandro Amaranto, Graduate Research Assistant, Department of Biological Systems Engineering, UNL; Graduate Research Advisors: Francisco Munoz-Arriola, UNL, and Dimitri Solomatine, UNESCO-IHE

***Variable rate irrigation management using remote sensing based model updated using soil moisture content measurements*** – Sandeep Bhatti, Graduate Research Assistant, Biological Systems Engineering, UNL; Graduate Research Advisor: Derek Heeren

***Electromagnetic Soil Moisture Sensors and Variable Rate Fertigation: Research Efforts in West Central Nebraska*** – Himmy Lo, Graduate Research Assistant, Biological Systems Engineering, UNL; Graduate Research Advisor: Daran Rudnick

***Improving Variable Rate Irrigation Efficiency Using a Real-time Soil Moisture Adaptive Control Model Informed by Sensors Deployed on Unmanned Aircraft*** – Mitch Maguire, Graduate Research Assistant, Department of Biological Systems Engineering, UNL; Graduate Research Advisor: Wayne Woldt

***Diversity Reception with Multiple Antennas in Underground Communications*** – Abdul Salam, Graduate Research Assistant, Department of Computer Science, UNL; Graduate Research Advisor: Mehmet Can Vuran

***In-Field Soil and Plant Sensor Network to Improve Variable Rate Irrigation Efficiency*** – Jasreman Singh, Biological Systems Engineering (Soil and Water Resources Engineering Emphasis), UNL; Graduate Research Advisor: Yufeng Ge

## **Freshwater & Agriculture Ecosystems & Public Health:**

***Hastings Wellhead Protection Area Vadose Zone Project*** – Craig Adams, Graduate Research Assistant, Water Sciences Laboratory, UNL; Graduate Research Advisor: Dan Snow

***The Impact of Health Education on Pastoralists' Water, Sanitation, and Hygiene Behaviors in Tanzania*** – Mazbahul Ahamad, Graduate Research Assistant, School of Natural Resources, UNL; Graduate Research Advisor: Christopher Gustafson

***Microalgae Acclimation and Selection for Food Processing Wastewater Treatment*** – Xinjuan Hu, Graduate Research Assistant, Food Science and Technology, UNL; Graduate Research Advisor: Yulie Meneses and Jayne Stratton

***Study of flow over permeable bed*** - Narendra Kumar Patel, Graduate Research Assistant, Civil Engineering (specializing in Hydraulics and Water Resources), UNL; Graduate Research Advisor: Junke Guo

***The mobilization of naturally occurring uranium in response to the influx of nitrate into aquifer sediments*** - Jeff Westrop, Graduate Research Assistant, Geology, UNL; Graduate Research Advisor: Karrie Weber

## **Freshwater Presentations with an Emphasis on Education and Engagement:**

***"Know Your Well" Project*** – Chris Olson, Graduate Assistant; Graduate Advisor: Dan Snow

***A comparative study of the role of values in reasoning about socio-hydrological issues in students from developed and developing countries*** – Destini Pettit, Graduate Research Assistant, School of Natural Resources, UNL; Graduate Research Advisor: Cory Forbes



## **Research Forum – Poster Presenters (grouped by topics, session at 10:30 a.m.)**

### **Improving Groundwater Management for Agricultural Production:**

*Assessing the long-term water savings of reduced irrigation pumping in western Nebraska* – Justin Gibson, Graduate Research Assistant, School of Natural Resources, UNL; Graduate Research Advisor: Trenton Franz

### **Enhancing High-productivity Irrigated Agriculture:**

*A Web Based Real Time Nitrogen Leaching Calculator* – Babak Samani, Graduate Research Assistant, Department of Computer Science, UNL; Graduate Research Advisor: Haishun Yang

*Raikes Design Studio Farm Database Project [PRODUCT DEMONSTRATION at 2:45 p.m.]* – Erica Dolph and Daric Teske, Raikes School Design Team; Advisors: Nick Brozovic and Kate Gibson, DWFI, and Patricio Grassini, Agronomy & Horticulture, UNL

### **Freshwater & Agriculture Ecosystems & Public Health:**

*Influence of setback distance on antibiotics and antibiotic resistance genes in soil and runoff following the land application of swine manure slurry* - Cici Hall, Graduate Research Assistant, Civil Engineering, UNL; Graduate Research Advisor: Xu Li and Shannon Bartelt-Hunt

*Combining multiscale techniques to characterize groundwater-surface water dynamics* – Mason Johnson, Graduate Research Assistant, School of Natural Resources, UNL; Graduate Research Advisor: Troy Gilmore

*Predicting Atrazine transport under Future Climate Scenarios Beneath the Nebraska Management Systems Evaluation Area (MSEA) Site* - Chuyang Liu, Graduate Research Assistant, Civil Engineering, UNL; Graduate Research Advisor: Yusong Li

### **Additional posters presented by:**

*Estimation of ET by Remote Sensing Energy Balance Models* – Pragya Singh, Fulbright Visiting Research Scholar, DWFI

*Bacteriophage based Treatment Process for Suppressing Antibiotic Resistance Gene Spread in Beef Cattle Manure* - R. Selvakumar, Water Advanced Research & Innovation (WARI) Fellowship Program Fellow (Visiting Faculty); Faculty Mentors: Xu Li and Yusong Li, Civil Engineering, UNL